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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,092	09/19/2003	Chih-Hung Shen	406200	1274
27717	7590	02/23/2006	EXAMINER	
SEYFARTH SHAW LLP 55 E. MONROE STREET SUITE 4200 CHICAGO, IL 60603-5803			PARSONS, THOMAS H	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,092

Applicant(s)

SHEN ET AL.

Examiner

Thomas H. Parsons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 5, line 23, suggest defining, here or wherever appropriate (e.g. at the bottom of Table 1), the acronyms EC, DMC, EMC;

Line 22, suggest defining, here or where appropriate (e.g. at the bottom of Table 1), the acronym TMPTA;

Line 23, suggest defining, here or wherever appropriate, the acronym AIBN; and,
Page 7, Table 1, suggest defining here or where appropriate, the acronyms PEG200, TTEGDA, HEOTMPTA.

Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Suggest amending the specification where appropriate to provide proper antecedent basis for the limitation t-Bu and R³Si- as set forth in line 2 of claim 7

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (6,680,147) in view of Applicants' specification.

Claim 1: Lee discloses a lithium battery comprising a pouch, a gel-type electrolyte and a jelly-roll (abstract and col. 4: 18-19), the gel-type electrolyte having a plurality of micelle units, and the micelle unit comprising:

a micro drop of electrolyte; and a plurality of first oligomers (e.g., acrylates) (col. 4: 55-col. 5: 60) with interfacial activity, the first oligomer having at least one nonpolar group and at least one polar group for adhering to the surface of the micro drop.

Because the first oligomers of Lee are similar to those instantly disclosed, the oligomers of Lee would obviously provide interfacial activity, and a first oligomer having at least one nonpolar group and at least one polar group.

Further, because the method of making the gel electrolyte (via polymerization) is similar to the method instantly disclosed, the electrolyte of Lee would obviously comprise the claimed micelle units comprising a micro drop of electrolyte and polar units adhered to the micro drop.

Lee does not disclose an aluminum foil packet.

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The Applicants on page 2, lines 9-17 admit that in recent years lithium batteries have been encapsulated in a n aluminum foil pack to thereby provided a thinner container for easily encapsulating the battery and that can be provided in shaped other that a rectangular shape.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pouch of Lee with the aluminum foil packed to the Applicants' specification because the combination would have provide a batter having an improving reliability, life, safety and of a reduced sized thereby improving the overall performance of the battery.

Claim 2: Lee discloses a plurality of second oligomers (e.g. a polysiloxane compound or a polysiloxane-polyoxyalkylene compound) (col. 4: 55-col. 5: 60) interconnected with each other and surrounding the first oligomer with interfacial activity. Because the oligomers and the method of Lee is similar to that instantly disclosed, the oligomers of Lee would obviously be interconnected with each other and surrounding the first oligomer with interfacial activity

Claim 3: Lee discloses a method for making a lithium battery, comprising the steps of:
disposing a jelly-roll in a pouch (col. 7: 25-29);
injecting a mixture of a first oligomer, an electrolyte and an initiating agent into the pouch (col. 7: 30-45);
molding the pouch packet by sealing and compressing (col. 7: 45-54);
baking the mixture to form a gel-type electrolyte (col. 7: 45-54); and
performing an activation process (col. 11: 20-45).
Lee does not disclose an aluminum foil packet.

The Applicants on page 2, lines 9-17 admit that in recent years lithium batteries have been encapsulated in an aluminum foil pack to thereby provided a thinner container for easily encapsulating the battery and that can be provided in shaped other than a rectangular shape.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pouch of Lee with the aluminum foil packed to the Applicants' specification because the combination would have provide a batter having an improving reliability, life, safety and of a reduced sized thereby improving the overall performance of the battery.

Claim 4: Lee discloses that the first oligomer is an acrylate oligomer (col. 3: 8-12) and is in an amount of from 5 to 50% by weight, based on the weight of the mixture (col. 3: 18-21 wherein parts by weight has been construed as % by weight).

Claim 5: Lee discloses that the first oligomer comprises a single-function oligomer (polyethylene glycol diacrylate) and a multi-function oligomer (ethoxylated trimethylolpropane triacrylate), the ratio of the single-function oligomer to the multi-function oligomer is between 5/95 and 95/5, (col. 3: 8-24) and the first oligomer has a polar group and a nonpolar group.

Because the first oligomer of Lee is the same as that instantly disclosed, to would provide a polar group and a nonpolar group.

Claim 6: Because the first oligomer of Lee is the same as that instantly disclosed, to would provide a polar group comprises a functional group selected from the group consisting of C=O, C=N and C-O.

Claim 7: Because the first oligomer of Lee is the same as that instantly disclosed, to would provide a nonpolar group of the first oligomer comprising t-Bu-, R₃Si-- and R--, and the

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R-- is selected from the group consisting of hydrogen, the alkyl, the vinyl, the silane and the siloxy.

Claim 8: Lee discloses that the electrolyte is EC/DMC/EMC (1/1/1) 1M LiPF₆, and is in an amount of from 50 to 95% by weight, based on the weight of the mixture (col. 4: 13-17 and col. 5: 61-67).

Claim 9: Lee discloses that the initiating agent (polymerization initiator) is a free radical initiating agent (azobisisobutyronitrile {AIBN} which is that same as that instantly disclosed) and is in an amount of from 0.1 to 5% by weight, based on the weight of the first oligomer (col. 6: 1-7).

Claim 10: Lee discloses that the temperature for baking the mixture is between 40 and 100°C. for 1 to 12 hours (col. 6: 34-38, col. 7: 45-49, and col. 8: 48-50).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Thomas H Parsons
Examiner
Art Unit 1745
